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THE ANNUAL YIELD OF NITROGEN PER ACRE IN DIFFERENT CROPS, was the title of a paper read at the twenty-eighth meeting of the British Association for the Advancement of Science, by J. B. Lawes and Dr. J. H. Gilbert. In a paper presented at the last year's meeting, on the question of the assimulation of free nitrogen by plants, and some allied points, the authors had stated in general terms that the amount of nitrogen yielded per acre per annum in different crops, even when unmanured, was considerably beyond that annually coming down, in the forms of ammonia and nitric acid, in the yet measured and analized aqueous deposits from the atmosphere. The investigations then referred to were still in progress; and a desirable introduction to the record of the results would obviously be, to illustrate, by reference to direct experiment, that which had been before only assumed, regarding the yield of nitrogen in our different crops. To this end had been determined the annual produce of nitrogen per acre, in the case of various crops, which were respectively grown for many years consecutively on the same land; namely, wheat, fourteen years; barley, six years; meadow hay, three years; clover, three years out of four; beans, eleven years; and turnips, eight years. In the majority of the instances referred to, the yield of nitrogen had been estimated, both for the crop grown without manure of any kind, and for that with purely mineral manure,—that is, excluding any artificial supply of nitrogen. It was the object of the present communication to give a summary view of some of the facts thus brought to light. Beans and clover were shown to yield several times as much nitrogen per acre as wheat or barley. Yet the growth of the leguminous crops, carrying off so much nitrogen as they did, was still one of the best preparations for the growth of wheat; whilst fallow, (an important effect of which was the accumulation within the soil of the available nitrogen of two years into one,) and adding nitrogenous manures, had each much the same effect in increasing the produce of the cereal crops. Other experimental results were adduced, which illustrated the fact, that four years of wheat, alternated with fallow, had given as much nitrogen in the eight years as eight crops of wheat grown consecutively. Again, four crops of wheat, grown in alternation with beans, had given nearly the same amount of nitrogen per acre as the four crops grown in alternation with fallow; consequently, also much about the same as the eight crops of wheat grown consecutively In the case of the alternation with beans, therefore, the whole of the nitrogen obtained in the beans themselves was over and above that which was obtained, during the same series of years, in wheat alone,—whether it was grown consecutively, or in alternation with fallow. Interesting questions arose, therefore, as to the varying sources, or powers of accumulation, of nitrogen, in the case of crops so characteristically differing from one another as those above referred to. It had been found that the leguminous crops, which yielded in their produce such a comparatively large amount of nitrogen over a given area of land, were not specially benefitted by the direct application of the more purely nitrogenous manures. The cereal crops, on the other hand, whose acreage yield of nitrogen under equal circumstances was comparatively so small, were very much increased by the use of direct nitrogenous manures. But it was found that, over a series of years, only about four-tenths of the nitrogen annually supplied in manure for wheat or barley (in the form of ammonia salts or nitrates,) were recovered in the immediate increase of crop. Was any considerable proportion of the unrecovered amount drained away and lost? Was the supplied nitrogenous compound transformed in the soil, and nitrogen in some form evaporated? Did a portion remain in some fixed and unavailable state of combination in the soil? Was ammonia, or free nitrogen, given off during the growth of the plant? Or, how far was there an unfavorable distribution, and state of combination, within the soil, of the nitrogenous matters applied directly for the cereal crops,—those, such as the leguminous crops, which assimilated so much more, gathering with greater facility, and from a different area of soil, and leaving a sufficient available nitrogenous residue within the range of collection of a succeeding cereal crop? These questions, among others, which their solution more or less involved, required further elucidation before some of the most prominent of agricultural facts could be satisfactorily explained. Comparing

the amount of nitrogen yielded in the different crops, when grown without nitrogenous manure, as above referred to, with the amount falling in the measured aqueous deposits, as ammonia and nitric acid, it appeared, taking the average result of the analyses of three years' rain, that all the crops yielded considerably more, and some very much more, than so came down to the soil. The same was the case when several of the crops had been grown in an ordinary rotation with one another, but without manure, through two or three successive courses. Was this observed excess in the yield over the yet measured sources at all materially due merely to exhaustion of previously accumulated nitrogenous compound within the soil? Was it probably attributable chiefly to the absorption of ammonia or nitric acid, from the air, by the plant itself, or by the soil? Was there any notable formation of ammonia or nitric acid from the free nitrogen of the atmosphere? Or did plants generally, or some in particular, assimilate this free nitrogen? As already intimated, some of the points which had been alluded to were at the present time under investigation; the authors having in this the able assistance of Dr. Pugh. Others, it might be hoped, would receive elucidation in the course of time. There, of course, still remained the wider questions of the original source, and of the distribution and circulation of combined nitrogen in the soil, in animal and vegetable life on the earth's surface, and in the atmosphere above it.

French "Grain Reserve."—Napoleon I. desired the establishment in each of the large cities of France of a public granary, such as would prevent scarcity in years of short harvests by a reserve of the superabundance of the plentiful years. The *Constitutional* mentions that the government of Napoleon III. has under advisement a plan of the same description, such as shall avert future alimentary crises. In ordinary years grain enough is produced in France for her own wants or consumption, but the periods of dearth occasion extensive suffering and a drain of her specie, paid for the importation of great quantities. In the 40 years, from 1816 to 1855 inclusive, the cost of the cereals imported was 1,216 millions of francs, while the exports did not exceed 276 millions. In the interval of 55 years, from 1801 to 1855 inclusive, the absolutely bad years were one to six of the good. The practical effect of this scheme will be advantageous to the Agricultural interest of France, by ensuring a regular price for cereals.

Japan.—The recent visitors to this heretofore undescribed land say that anything like a plain, or a meadow, (in the American sense of the words,) is utterly unknown there, yet every practicable foot of land is highly cultivated. The narrow strip of interval between the banks of the numerous coves which border the shore and the mountain sides, is cultivated in gardens or planted with fruit-trees. From these rise terraces, the rocks being dug out of the earth and placed in walls by the mere strength of human bone and muscle, and then the earth leveled down, and the small patch or plot constructed, every inch of which is to pay its *semi-annual* tribute to the cultivator. Some of the paths, for *roads* there are none, are hewn out of the rock like stairs, or else stone blocks are hewn and carried where wanted and put in place. Here are terraces in garden vegetables; there in wheat and barley, and others in sweet potatoes, beans, egg-plants, and corn; while apple, pear, and peach trees are hanging with fruit, scattered about without order, and pines, and oaks, and cypresses, and small shrubs and bushes, whose names I do not know, help to make up the perfect carpet of verdure. Thus it is as far up as the cultivation of crops can be profitably carried, but the very summits of the mountain ridges are made productive. Thick forests cover the sides of some; trees are seen scattered along the backbones only of others, as if planted in one or two rows at little distances, with space enough to let light pierce through and show their beauty—the green set in gold! Sometimes an immense tree stands alone on the highest foot of a solitary mountain, fifteen hundred or two thousand feet high, spreading abroad its wide branches and standing in regal dignity, as if conscious of its beauty and inviting the world to admire it. Other mountain slopes and tops are covered with a luxuriant crop of tall coarse grass, which is used in thatching houses. Every where that the eye can reach, and wherever you go, in the valley, on the banks of rivulets and the bay, on the hill slopes, and the mountain sides, up to the highest peaks, there is not a brown patch, a barren acre, a naked foot. All is one great carpet of verdure in trees, and grass, in shrubbery, in gardens and cultivated grains; one great wilderness of vegetable luxuriance and beauty.

Gigantic Harvest Home.—The Irish papers contain an account of the gigantic harvest home on the estate of Mr. Pollock, in the county of Galway. About 1,400 persons (only one-half of his servants) were liberally entertained in the Home Farm Steading at Lismay. The roof covers nearly two acres of land, and the building was lighted with gas. The extent of this gentleman's operations may be judged by the fact that he has 1,800 acres in green crops, and 4,000 in grain, with about 4,000 head of cattle.

Cotton Oil.—Several cargoes of cotton-seed have been shipped recently from southern ports to France, where it is to be used for making "cotton oil."

The Steam Plough recently invented by Mr. Fawkes, of Pennsylvania, was recently tested at Decatur, Illinois. Accounts of the trial say that the arrangements were not as complete as could have been desired, while falling rain and snow combined to make the ground wet, soft, and slippery. The machine was provided with an upright locomotive boiler, having 151 flues set upon a long frame-work, which rested on a large roller-shaped driving wheel behind, and two guide wheels in front. A tank and box for wood or coal rested over the driving wheel. The guide wheels are in advance of the boiler. The engine is of 20-horse power, with 8-inch cylinders driving the master wheel by cogs on the ends of the roller. The driving wheel is shaped like a barrel, being six feet long and five feet high. The mode of moving this enables the inventor to stop his machine at once without any danger of breaking anything. The guide wheels are about eighteen inches wide, and three feet high, turned by a wheel under the control of the engineer. The tank, smaller than intended, holds five barrels of water. Mr. Fawkes estimates the consumption of wood at one cord per day, and of water at one and a half barrels per hour. The weight is loaded about seven tons; cost $2,500. Cost of a ten-horse power, $1,500. The plows are on frame-work behind, capable of being lowered and raised by an assistant.

The machine drew six plows, cutting 12-inch furrows, between four and five inches deep. It plowed at the rate of one acre in forty minutes; on firm, hard ground it could go faster. On very wet ground the driving wheel slipped, which the inventor thinks he can obviate by putting spuds in it. The success was beyond expectation; and as there are several other steam plows in course of invention and erection, it is to be presumed that Yankee enterprise and ingenuity will soon put forth a steam plow that will surmount all obstacles to its success.

Box Measures for Farmers and Planters.—A box 24 by 16 inches square, and 29 inches deep, will contain a barrel—5 bushels, or 10,376 cubic inches. A box 24 by 16 inches square, and 14½ inches deep, will contain half a barrel—2½ bushels, or 5,376 cubic inches. A box 16 by 16½ inches square, and 8 inches deep, will contain also a bushel, or 2,158½ cubic inches; each inch in depth holding one gallon. A box 12 by 11½ inches square and 8 inches deep, will contain half a bushel, or 1,075½ cubic inches, each inch in depth holding half a gallon. A box 8 by 8½ inches square, will contain half a peck, or 198⅛ cubic inches. The gallon dry measure—a box 4 by 4 inches square and 4½ deep, will contain one quart, or 62½ cubic inches.

The Grain Trade of Chicago.—The total receipts of grain at Chicago for the season, up to the 1st instant, were 470,284 bbls. flour, 9,484,599 bushels wheat, 8,549,518 bushels corn, 1,881,973 bushels oats, and 140,230 bushels barley; making a grand total of over twenty-two millions of bushels of grain, viz: 22,407,740 bushels. At this time last year the receipts had amounted to 309,000 bbls. flour, 9,178,728 bushels wheat, 6,500,000 bushels corn, and 1,100,000 bushels oats; making a total of 19,278,728 bushels of grain, and showing an increase, in the receipts of this year, of over three millions of bushels. The total shipments of the season were 391,667 bbls. flour, 8,666,931 bushels wheat, 7,523,693 bushels corn, 1,526,408 bushels oats, and 115,549 bushels barley; making a grand total of nearly twenty millions of bushels of grain, viz: 19,790,916 bushels. At this time last year, the shipments had amounted to 175,000 bbls. flour, 8,800,000 bushels wheat, 6,600,000 bushels corn, and 180,000 bushels oats; making 16,455,000 bushels of grain, and showing an increase, in the shipments of this year, of over three millions of bushels.

Indian Corn for Exportation.—The *Louisville Courier* speaks of an invention for preserving meal by the insertion of a tube through the centre of each barrel, thus admitting a free circulation of air. The editor says that the bread made of meal submitted to this process, after it had been subjected to *four* passages across the Atlantic ocean, it was perfectly sweet, and made superior bread. This subject is a very important one, and will be discussed at the coming Agricultural Congress. While wheat is liable to so many casualties, and while there is a gradual falling off in the product in all the wheat growing States, and while Indian corn is one of the most productive and sure crops in the United States, it certainly behooves us to employ such means as will preserve this cereal in the most perfect manner, and secure the immense foreign trade that awaits us in this article.

Scientific Agriculture.—Mr. Henry C. Vail, who has had much experience as an agricultural instructor and lecturer, is now located at Springfield, N. Y., where he receives pupils for a course of agricultural instruction, in which they are indoctrinated in the connexion of the sciences with the successful cultivation of the soil. Mr. Vail claims for his system of instruction that it is simple, thorough and efficient, and that it has the approval of the best cultivators and scientific men.

Back Numbers of the *Monthly Bulletin* sent to all members who may wish to complete their sets.

Convocation of Agriculturists.—As one of the means of devising a more expeditious and effective mode of collecting agricultural statistics for the annual report of the Patent Office upon agriculture, the Commissioner of Patents, (with the approval of the Hon. Secretary of the Interior,) has invited a number of gentlemen from different sections of the Union, skilled in various branches of rural industry, to convene at an appropriate room in the Patent Office building on Monday, the 3d of January next, at 10 o'clock, A. M., with the view of imparting a knowledge of such facts in practical husbandry as may have come under their experience and observation, and to suggest means by which our crops may be increased, improved in quality, or made more profitable to the producer.

It is understood that the deliberations of this convocation are not to be reported, or otherwise made public, until they have been revised and published in the Patent Office report.

Operations of the Agricultural Division of the Patent Office.—In addition to the matters mentioned in the Report of the Secretary of the Interior, (on the opposite page,) measures have been taken to procure the *modus operandi* of agricultural schools, and of experimental grounds, in various countries of Europe; also, to obtain in detail the processes of preparing figs, raisins, and Zante currants, and of the manufacture of oil and wine.

The "American Arboretum" at Washington has been commenced, under the direction of the Agricultural Division of the Patent Office, and seeds of many varieties of plants, shrubs, and trees have been obtained. Messrs. Parsons & Co, of Flushing, Long Island, have liberally presented more than one hundred species of American trees, shrubs and vines, which have been accepted. Donations have been promised from other sources. Mr. Parsons, (who is about to visit Europe,) has kindly offered to procure at Paris a set of porcelain labels, inscribed with the common and the botanical names of each species.

Agricultural Colleges Land Bill.—On Monday, December 6, Senator Stuart of Michigan said: "At the last session there was passed, by the House of Representatives, an act donating public lands to the States and Territories, to provide colleges for the promotion of agriculture and the mechanic arts. That bill was referred to the Committee on Public Lands, and reported back favorably, and it stands now as a part of the business of the Senate. I shall not ask the Senate to make it a special order, nor do I design to state any particular day when I shall ask the Senate to take it up and pass it; but I simply desire to give notice that, as soon as the Senate shall be full, I shall ask the Senate to proceed to the consideration of that bill, and in the hope that we may be able to get a decisive vote upon it at a very early day."

This is the act introduced into the House by Mr. Morrill, of Vermont, and passed there by a majority of five votes. It grants to the several States, (says President Williams,) "for the benefit of Agriculture and the Mechanic Arts," 20,000 acres of land for each Senator and Representative to which each State is entitled. Ten per cent. of the grant can be used for the purchase of farms, but none of it can be converted to the erection of buildings. By reference to the latest report of the General Land Office, it appears that we recently possessed 1,088,792,498 acres of unsold public domain. The grant proposed by the bill in question does not amount to two-thirds of one per cent. Can any one doubt that our great landed inheritance would be enhanced in value ten times that per centage, by the creation of a cordon of Colleges throughout the States, where those studies are taught which conspire to render men more enlightened tillers of the soil. From a report in 1854, it appears that an aggregate of 4,050,704 acres of land had been granted to fifteen States of the Union, for the endowment of Universities. More than 60,000,000 of acres have been appropriated to the establishment of Common Schools. It seems to have become the unquestioned policy of the Government to set apart a portion of the public lands, as a sacred fund, for the education of men, who and whose posterity are to inhabit them. Surely, if it is a legitimate use of the lands to devote them to the use of professional and classical learning, for still more powerful reasons, justice and expediency demand a share of them for instruction of men in those Sciences and Arts which bear directly upon Industrial and especially Agricultural pursuits. We support two National Schools for instruction of men in the arts of destruction. Let something be done for the support of schools for instruction in the arts of production."

Medals of 1858.—A large proportion of the medals awarded at Richmond have already been struck at the United States Mint, and are in the hands of the engraver. They will all be ready for delivery at the annual meeting of the Society, January 12, 1859.

House Committee on Agriculture.—Messrs. William G. Whiteley of Delaware, Lawrence W. Hall of Ohio, Wm. H. Kelsey of New York, John Huyler of New Jersey, Richard Mott of Ohio, James B. Foley of Indiana, James L. Gillis of Pennsylvania, R. P. Tripp of Georgia, W. H. Keim of Pennsylvania.

THE ANNUAL REPORT of the Secretary of the Interior concludes with the following recapitulation of the benefits conferred upon the agriculture of our country by the Agricultural Division of the Patent Office:

"The subject of agriculture appears to occupy an increased share of public attention, and every new fact in relation to the productions of the earth is received with favor by the country. The agricultural division of the Patent Office may justly claim that it has contributed, more than any other agency, in exciting the interest thus manifested. By means of the appropriations made from year to year, 'for the collection of agricultural statistics, investigations for promoting agricultural and rural economy, and the procurement and distribution of cuttings and seeds,' great material advancement has already been effected; and, though much remains to be done, the advantage to the country from these expenditures cannot be too highly estimated. A few years ago science had done comparatively little for the farmer; the modes of cultivation were careless and without system; the component elements of the soil and of many valuable fertilizers were not understood, and costly manures were generally applied without knowledge, and often without benefit; and improvements, by means of the introduction of superior seeds and cuttings, were dependent upon the feeble and variable exertion of individual enterprise. It was then that the Patent Office, in obedience to the expressed wishes of the national legislature, entered upon the execution of its utilitarian plans, including investigations into the character of soils, the peculiarities of different climates, and the collection of accurate information in regard to the suitableness of the several divisions of the country for the propagation of desirable plants and animals. A great mass of facts has been collected, collated, published, and scattered broadcast among the people, together with improved seeds and new plants, and directions as to the best modes of cultivation. The public attention has thus been awakened and arrested; agricultural societies have sprung into existence in every State, and almost every county, over the whole country; men of science have been induced to lecture upon agriculture and its kindred subjects, and thus shed a flood of light upon all the processes of nature in the vegetable productions of the earth and the economy of animal life; public fairs have been encouraged, and competition in every branch of agricultural industry fostered by awards of premiums to the most successful; newspapers and magazines devoted to agriculture in all its branches have been established, and seeds have become an article of merchandise in almost every village; and professorships in our colleges have been instituted with the view of impressing upon the young student the advantages of scientific knowledge in its application to production.

"Among the primary advantages of this official agency may be enumerated uniformity of method, concurrence of action, and the communication of results to a common centre for comparison and elaboration and subsequent judicious publication. Although it may be admitted that experiments have been made, and seeds distributed, which have proved of little profit, yet, in a country possessed of so great a variety of soil and climate, it was wise to essay the propagation of every plant affording any hope of usefulness, especially as each success would more than compensate for all the cost and trouble attending many instances of failure. A few examples of this character may with propriety be here cited. The apparently waning sugar culture of the United States has been reinvigorated by the introduction of rattoons of new varieties from Demerara and Caracas. The success attending the culture of the Chinese sugar cane in the southern, middle, and western States has been greatly augmented, fully equaling all that was anticipated from it. It is believed that not less than a hundred thousand acres have this year been devoted to its culture, for syrup-making and forage for stock, for both which purposes it is generally, if not universally, pronounced admirably adapted. Of the cereals, the different varieties of wheat and barley, introduced from regions adjacent to the Mediterranean, and from France, are highly appreciated by intelligent farmers. The chufa, which was obtained from Spain and extensively distributed, has been successfully cultivated, it is believed, in every State in the Union. From the recent analysis of this tuber, as well as from the testimony of many cultivators, the belief is warranted that it will prove of great value. The cork oak, also introduced from Spain, has found so much favor that a large supply of acorns has been ordered.

"In conformity with plans for promoting the culture of the grape and the manufacture of wine, an effort is in progress to collect the indigenous vines, and, after a series of experiments, to induce the cultivation of the more approved varieties in their appropriate localities.

"It is believed that the effort now making to obtain information in regard to the several varieties of the tea plant, the soils and climates best adapted to their growth, and the methods pursued in their culture and subsequent preparation for commerce and consumption, is the most earnest, and likely to prove the most decisive, that has ever been made in this country or in Europe; and it is hoped that, before the expiration of another year, a degree of progress will have been attained in this enterprise upon which to base an intelligent opinion respecting its ultimate success. In view of the facts that the importation of the grape and its products, raisins, wine and brandy, as shown in the average of four years, ending with 1857, involves an annual expenditure of $6,718,235, and of tea of $6,602,984,

and that the domestic production, by insuring unadulterated and cheaper commodities in commerce, will increase the consumption, it will not be thought that too much attention is given to these subjects.

"The entomologist in this branch of the service has been stationed in the region of the St. John's river, Florida, where he is occupied in investigations relative to the insects infesting the orange tree and cotton plant, in the hope of devising means to destroy them or prevent the injuries they inflict, and in noting all the accidents and diseases to which this tree and plant are liable, and endeavoring to ascertain the causes thereof and the most efficient preventives and remedies.

"The result of the researches of the chemists during the past year, are recorded in the Report on Agriculture for 1857. These persons have been employed during the present year in analyzing the ash of the tobacco plants and their soils, as found in Massachusetts, Maryland, Kentucky, Florida, and the island of Cuba. A chemical examination has also been ordered to ascertain the composition of the soils of east Florida, peculiarly adapted to the growth of sea island cotton.

"In presenting these as a portion of the objects to which the liberal grants made by Congress for the advancement of agriculture have been appropriated, I would remark that, in view of the fact that ours is emphatically a country of cheap lands, where every citizen so inclined may easily become a landed proprietor, and that so large a proportion of the people are devoting themselves to the cultivation of the soil, it cannot be considered that the government has acted prodigally or unwisely in attempting in its legislation to elevate agriculture, so essential to our wealth and prosperity as a nation, at least to an equality with other pursuits."

Agricultural Bureau of Mississippi.—This bureau, established by the Legislature, has been regularly organized, and the State society is now disbanded. Delegates from twenty-nine counties and from three districts were present at the first meeting, T. J. Hudson, esq., presiding. Among other business, it was decided to petition the Legislature to amend the organic law, by adding to it a clause compensating the delegates at the rate of two cents per mile and four dollars per diem, the sessions not to exceed six days. Amendments were also recommended, allowing two or three adjacent counties, thinly settled, to unite under one charter, and to form one society entitled to State bounty; also to make the capital stock necessary to secure the State bounty consist of ground purchased for fairs, as well as money or secured notes. The salary of the secretary, J. Williams, Esq., was raised to one thousand dollars, and the following resolutions were passed, recommending the support of a valuable periodical—*The Mississippi Planter and Mechanic:*

"*Resolved*, That we recommend to each county society subordinate to this Bureau, and to each member of those societies, as well as to all persons in this and the adjoining States, friendly to the cause of agriculture, to subscribe for the same, as a paper eminently calculated to advance the cause in which they feel so deep an interest, and that we recommend it to all those wishing to make advertisements in any manner connected with agriculture and mechanics, as a fitting medium of addressing the public.

"*Resolved*, That the friends of agriculture in this State are requested to come forward in a spirit of liberality for the purpose of raising a fund for the purchase of a press for the use of this Bureau, and that the use of the sum be tendered to the editors of the Mississippi Planter and Mechanic, until otherwise ordered by this Bureau."

New York College Farm.—We notice with pleasure that donations of stock, implements, and seeds are being made to this useful institution.

The S. C. Farmer and Planter has been purchased by Mr. Stokes, late of the Laurenceville Herald, who proposes to remove it to Columbia. It will be edited, (we learn.) by one of the ablest planters in South Carolina, and the first number of the new series will be issued about the 20th of January.

Dr. N. B. Cloud.—A recent number of *Harper's Weekly* contains a portrait of Dr. Cloud, the efficient Secretary of the Alabama State Agricultural Society. "He is a native of Edgefield district, South Carolina, and removed to Alabama in the spring of 1838 to engage in the practice of his profession. With his professional business he soon associated the pursuit of agriculture, to which he had been bred up from early life. He was very successful as a farmer. In 1852 he established the '*American Cotton Planter*' in the city of Montgomery. Beginning under manifold discouragements, with a subscription list of 500 or less, it now stands foremost in the ranks of agricultural journalism in the south, with a growing popularity, and a current list of about 6,200 subscribers. Its success is worthy of its active and intelligent editor."

The Cotton Crop of Georgia is estimated by Hon. Mark A. Cooper as worth $25,000,000, and the capital invested is estimated at $110,000,000.

The largest yield of Indian Corn.—In looking over the list of Premiums and the Reports received at the office of the United States Agricultural Society, from obliging secretaries of State and County societies, it appears that the honor of having produced the largest yield of Indian corn in North America belongs to Dr. J. W. Parker, of Columbia, South Carolina. It amounted to two hundred bushels and twelve quarts per acre, as reported by a committee of the South Carolina State Agricultural Society, and had been thus cultivated: "The ground was sand-hill branch land, prepared by under-draining and broken up in November, and twenty-five two-horse loads of cow or horse manure were applied to the acre in December, and well plowed in with a two horse plow, which was followed by the subsoil plow drawn by two mules. About the first of March another coat of stable manure was spread and again plowed. Early in April, three cart loads of air-slacked lime, and two sacks of salts were spread over each acre, and lightly plowed under. On the 14th of May the ground was thoroughly plowed again with a large plow, harrowed level and laid off thirty inches apart with a shovel plow. Guano and plaster was then sprinkled in the furrows—nearly two hundred of the former and three hundred pounds of the latter to each acre. The seed planted was first soaked for one night in a strong solution of nitre, and drilled at distances of eight to twelve inches in the rows, and covered with hoes; the ground was then rolled and left perfectly level. The first dressing was with a long narrow plow, followed with hoes. On the 5th and 17th of June the same work was repeated, each time leaving the ground level. During the season there was a protracted drought. Piece No. 1 was irrigated twice, and piece No. 2 had water turned on it once."

How Corn is Preserved in Russia.—At a late meeting of the Academy of Sciences, held in Paris, a letter from M. de Semchoff—a Russian land-holder—was read, describing the manner in which corn pits are made in that country. The pits are dug in a dry soil, and instead of masonry, the sides are hardened by a long continued exposure to a wood fire. Before the corn is introduced, the air in the pit is rarified by burning some straw in it, after which the grain is thrown in, packed close, and the pit tightly inclosed. Corn has been preserved in such pits for forty years. Some of our Western farmers, who raise large crops of wheat and corn, should try this method of preserving grain during years when there is a great yield, in order to lay up a store for seasons of an inferior yield.

Sheep in Texas.—The *San Antonio* (*Texas*) *Herald* states that Mr. Robinson, of Boston, who intends to go into the business of sheep raising upon a pretty large scale, has made his location in Mr. Kendall's neighborhood, on the Guadalupe, and received recently his first drove of sheep from Mexico, some 1,500 head. There were several others who went to Mexico at the same time for sheep, among them Mr. Judson, and the number brought on was about 4,000 in all. These gentlemen are now importing fine bucks from the north.

Dry Rot in Cotton.—The *Lauderdale Republican* publishes a prize essay on the dry rot in cotton, delivered by Dr. Peyton King at the recent fair of the Agricultural and Mechanical Society of Lauderdale county. The conclusions at which Dr. King arrives are, "that the dry rot primarily and mainly proceeds from diseased or faulty seed; that dry weather very much promotes it, and seasonable weather checks or retards it; thirsty or manured land is favorable to it, and it will regularly increase more or less so long as the present diseased seed are planted; that the great body of seed now planted are diseased; and that to eradicate the rot seed must be obtained free from it."

The Crops of Red River.—An able report has been published by the Canadian Government, from a Scientific corps sent last summer to explore the country between Lake Superior and the Red river, above the 49th parallel. On one farm, wheat, which is the staple crop, was sown May fifth and harvested August eighteenth, having required one hundred and five days to ripen. Barley was sown May twenty-eighth, and reaped August eighteenth. Indian corn is planted about the twenty-third of May, and ripens every year. Potatoes are planted from the twenty-second to the twenty-sixth of May; the potato crop here is truly magnificent. Cauliflowers, Windsor beans, celery, beets, several varieties of cabbage, in fact every desirable vegetable was seen in profusion, and of excellent growth.

It is hard to credit some of the statements of productiveness in a country five hundred miles to the north of St. Paul's, Minnesota, if we regulate our ideas of climate by parallels of latitude. In reality, however, the Red river valley is very little different from that of Fort Snelling, and the line of the average mean temperature of St. Paul, instead of following the 45th parallel, deflects northwest from this point along the Mississippi, and following the declination of the surface elevation along the Red river and adjacent valleys, carries all the characteristics of the temperate climates up to the base of the Rocky Mountains, in whose gorges it meets the balmy breezes of the Pacific slope.

Virginia Central Agricultural Society.—At the annual meeting of the Virginia Central Agricultural Society, held in Richmond on the 27th of November, 1858, the following officers were elected:

President.—James Lyons of Henrico county.

Vice Presidents.—Wm. C. Rives, Wm. B. Preston, Wm. H. Macfarland, P. St. Geo. Cocke, Joseph Mayo, Henry Cox, George W. Munford, Collin Clarke, John Rutherfoord, Dr. Joseph M. Sheppard, Abram Warwick, Allen T. Caperton, Wm. P. Taylor, Wm. Wirt, Wm. B. Harrison, James Galt, R. A. Claybrook, H. C. Neal, O. G. Clay, George T. Yerby.

Executive Committee.—J. L. Davis, Wm. B. Stanard, Wm. M. Harrison, Gen. Wm. H. Richardson, Peyton Johnston, John A. Seldon, Wm. C. Wickham, H. C. Cabell, Albert Aiken, Fendal Griffin, R. B. Haxall, R. Archer, J. W. Ware, N. B. Hill, Col. S. McRae.

Secretary and Treasurer.—Col. Charles Dimmock of Richmond.

Col. Dimmock has transmitted to the Secretary of the United States Agricultural Society the following complimentary resolution, accompanied by a letter, in which he expresses his "individual gratification in being the agent to communicate this feeble testimony of the respect and kindness in which your Society is held by our subordinate Society."

"*Resolved*, That this Society take pleasure in acknowledging the courtesy and kindness of the officers and members of the U. S. Agricultural Society, during the late Fair, as well as for the aid given us in getting up our first exhibition."

Medals of 1857.—Six months have now elapsed since those to whom medals were awarded at the Louisville exhibition, were notified that they were ready for delivery to them or to their agents. Some were forwarded by members of Congress, others by express, and a few remain unclaimed. Will agricultural editors call attention to this, and aid us in earnestly requesting those to whom these medals belong to send for them without further delay?

Seventh Annual Meeting.—The United States Agricultural Society will hold its Seventh Annual Meeting in the Lecture Room of the Smithsonian Institution, at Washington city, on Wednesday, the twelfth day of January, 1859, when the election of officers will be held, and the business required by the constitution of the Society will be transacted.

Officers and Members of the Society are respectfully notified to attend, and a cordial invitation is extended to State and other Agricultural Associations to send Delegates, that there may be a general representation of Agriculturists "in Congress assembled," to protect and sustain their interests, acting as a national organization on such matters pertaining to Agriculture as may be deemed appropriate. Gentlemen from other lands who may be interested in the acquisition and diffusion of Agricultural knowledge, are also invited to attend, and to participate in the proceedings.

The Medals and Diplomas awarded at the Sixth Annual Exhibition at Richmond, will be delivered to successful competitors, or their agents. The published volume of Transactions for 1858, will be delivered to Members of the Society, and to gentlemen connected with the Agricultural Press.

Important Agricultural topics will be publicly discussed, after introductory remarks by eminent scientific and practical agriculturists. Gentlemen having other topics pertinent to the advancement of Agriculture, which they may wish to introduce or to have discussed, will please refer them to the Executive Committee, through the Secretary, that a place may be assigned them on the daily programme.

Delegates are requested to bring copies of the publications of the Societies which they represent—one for the Library of the U. S. Society, and others for foreign and home interchange.

Propositions from cities at which the next Annual Exhibition of the Society is desired, will be received and considered.

The Business Office of the Society is in Todd's Marble Building, one door west of Brown's Hotel, Pennsylvania avenue, where all interested in the cause of Agricultural improvement are invited to call when in Washington city. A large number of Agricultural newspapers, periodicals and reports, (liberally contributed,) are placed on file for public inspection, and the Library is also free to all who may desire to examine it. Models or Drawings of Agricultural Implements, and other objects of interest, are placed on exhibition without charge.

Gentlemen who may wish to become Life Members of the Society, can do so by paying or remitting ten dollars to the Treasurer, Hon. B. B. French, Washington city. This will entitle them, without any further payments, to the full privileges of membership—among these are: free admission to all exhibitions of the Society, the annual volumes of published Transactions, the Monthly Bulletin, and the large and elegant Diploma. The fee for Annual Membership is two dollars, which ensures the receipt of the Transactions and the Monthly Bulletin for one year.

☞ Editors are requested to call attention to the above announcement. Those who notice it will please send marked copies of their papers to the *Monthly Bulletin*, and they will receive in return the volume of *Transactions for* 1858.